(No Model.)

V. L. OURDAN.

INSTRUMENT FOR ENGRAVING COMPASS FACES.

No. 344,676. Patented June 29, 1886.

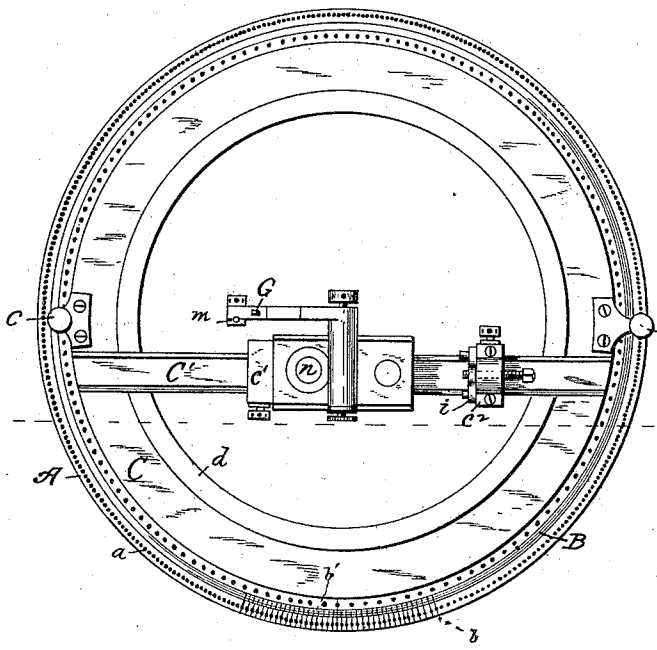


Fig. 1

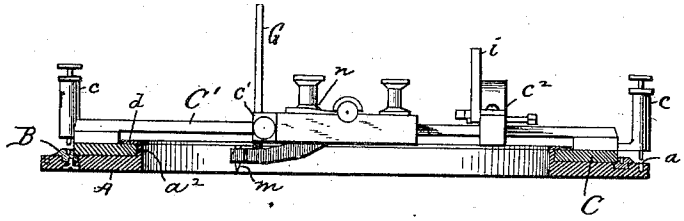


Fig. 2.

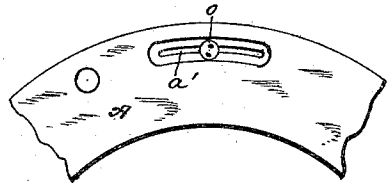


Fig. 3.

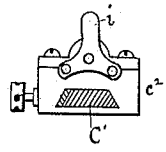


Fig. 4.

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UNITED STATES PATENT OFFICE.

VINCENT L. OURDAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

INSTRUMENT FOR ENGRAVING COMPASS-FACES.

SPECIFICATION forming part of Letters Patent No. 344,676, dated June 29, 1886.

Application filed February 25, 1886. Serial No. 193,170. (No model.)

To all whom it may concern:

Be it known that I, VINCENT L. OURDAN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Engraving-Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to instruments for engraving compass-faces; and it consists in the combination of an annular base provided with three hundred and sixty holes or notches, corresponding with the degrees of a circle, an annular rotating carrier fitted to move accurately on said base, bearing stops or catches for locking the carrier at any degree-point.

It consists, also, in the combination of the carrier, a transverse track or way provided with adjustable stops or gages, and an engraving-tool.

It consists, also, in the combination, with the base, of an adjustable ring provided with one hundred and twenty-eight holes or notches, corresponding with the "points of the compass," as well as in certain details of construction and particular combinations, to be hereinafter described, and pointed out in the claims.

The mariner's compass-face, as engraved and printed upon charts at the present time, consists of four concentric circles, upon which are engraved the division-marks of a circle, the zero-point of which corresponds with the true pole. Within these circles, concentric therewith, is engraved the old form of mariner's compass, indicating the variation of the needle at a given place.

In the drawings, Figure 1 is a plan. Fig. 2 is a section on line x x. Fig. 3 is a detail of a segment of the under side of the base, and Fig. 4 is a detail showing the face of the swinging stop-carrying arm i.

A is the annular base, provided with three hundred and sixty degree-marks, notches, or or holes, a, with an annular groove for the adjusting-ring, with slots a' a' countersunk on the under side, by means of which the ring B may be set to correspond with the variation of the compass at a given place. It also has an upwardly-projecting lip or flange, a^2, at the inner edge, and is provided with a scale, as b, by which the adjusting-ring is set.

B is an adjusting-ring, fitted to the groove in the base, as shown. It has one hundred and twenty-eight holes, corresponding with the points of the compass. Its outer edge is beveled and provided with a vernier, as F', for setting the ring with relation to the base to correspond with the variation.

The base A forms or constitutes a track for the carrier upon which said carrier freely moves. It also forms a bearing for the adjusting-ring, which may be set by aid of the scale on the base and vernier on the ring. The ring is clamped and fixed to the base at the desired point by means of set-screws o o in the countersunk slots in the base.

C is the carrier upon which are mounted stops or catches c c and the transverse track or way C'. This track is arranged across the carrier at one side of the center, so that the tool arranged at the side of the track will move in radial lines. One of these catches engages with the outer row of holes in the base and the other engages with the holes in the adjustable ring. These catches are adapted to be lifted out of operative position and locked, so that either may be used at will. The carrier is held to the base by a confining ring or plate, d, which is screwed or otherwise secured or made part of the lip or flange a^2.

On the transverse track C' are fixed adjustable stops c' c^2, and there is also mounted thereon between said stops, by means of a suitable sliding carriage, an engraving-tool, m. This tool is preferably mounted so as to be at all times perpendicular to the general plane of the plate.

The stop c^2 consists of an adjustable block carrying a swinging arm, i, having projections of different lengths, for limiting and regulating the length of the radial cuts of the tool.

G is a post attached to the arm of the engraving-tool, to hold weights for regulating the depth of the cut in the plate.

There is combined with the tool-carrying arm a cam, n, through which the arm may be lifted to hold the tool out of contact with the plate.

The operation of my new instrument is as follows: Set the adjusting-ring with relation

to the base to correspond with the variation of the compass. Then secure the instrument to the plate, so that the zero-point of the degree-marks on the base will correspond with the true compass. Then lift and lock the catches *c c*. Then successively set the tool on the transverse track in the proper positions and describe the several circles. Then adjust the stops c' c^2, and set the catch in the zero-hole of the base and cut the proper radiating line by sliding the tool-carriage and tool on the track between the stops. Then release the catch and set it in the succeeding hole, and cut the next radiating line, and so on until the degree-marks are all cut. The length of the radiating lines for one, five, and ten degree-marks are regulated by the stop c^2 and the swinging arm *i* with its differential projection. After this is done, lift and lock the outer catch, *c*, and release the other and set it into the zero-hole of the adjusted ring and there cut the radiating lines representing the points of the compass in like manner with the foregoing.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an engraving-instrument, the combination of an annular base and an annular rotating tool-carrier, and a tool working within the base, as set forth.

2. In an engraving-instrument, the combination of an annular base provided with notches or marks, an annular rotating tool-carrier, and a tool working within the base, and means for locking the carrier with the base, as specified.

3. In an engraving-instrument, the combination, with an annular base, of a rotating carrier, a transverse track, and a tool-carriage, and a suitable stop for limiting the movement of the carriage, as specified.

4. The combination, with a base having stops, notches, or marks, and an adjustable slide or ring having stops, notches, or marks, means for locking the two together, and an engraving-tool working within the base, substantially as described.

5. In an engraving-instrument, the combination of a base having stops, notches, or marks, an adjustable ring having stops, notches, or marks, means for locking the two together, and a rotating tool-carrier concentric with the base, substantially as described.

6. In an engraving-instrument, the combination, with a rotating carrier, of a transverse track, adjustable stops, and a movable tool carriage or holder, as set forth.

7. In an engraving-instrument, the combination of a movable tool-holder, an adjustable stop, and a swinging arm having projections of different lengths, substantially as specified.

8. In an engraving-instrument, the combination of a base having stops, notches, or marks, an adjustable ring having stops, notches, or marks, and an annular movable carrier, provided with means for catching or locking with the base and ring, as set forth.

9. In an engraving-instrument, the combination of a base having stop-notches and an adjustable ring having notches, an annular carrier having spring-catches for locking the said carrier to the base and ring, a transverse track, and a tool-carrier sliding on said track, and adjustable stops for regulating the range of the tool, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

VINCENT L. OURDAN.

Witnesses:
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